PRODUCT OVERVIEW & INSTALL GUIDE

Hammerhead™ Composite Panel Construction Solutions

AVIENT

HAMMERHEAD™ AND HAMMERHEAD™ FR FLAME RETARDANT COMPOSITE SANDWICH PANELS are engineered building materials made using continuous glass fiber reinforced thermoplastic facesheets bonded to a lightweight polyethylene terephthalate (PET) foam core. Hammerhead FR panels meet ASTM E84 Class A requirements for flame spread and smoke density. Configurations are available for applications requiring compliance with NFPA 286 corner burn testing.

Built for High-Performance Construction

Built for structural durability and demanding environments, Hammerhead panels deliver excellent strength-to-weight ratio, weighing significantly less than wood, oriented strand board (OSB), or traditional wall assembly materials. The thermoplastic facesheets provide a tough, impact-resistant surface while remaining easy to cut, fasten, and install with standard tools.

KEY CHARACTERISTICS	BENEFITS
Excellent Flame Performance	Hammerhead FR panel options meet strict commercial fire standards and maintain structural integrity even during flame exposure
Lightweight Structural Integrity	Weighs less than wood, drywall, OSB, or gypsum wall assemblies — easier to lift, move, and transport onsite
Exceptional Strength-to-Weight Ratio	Composite construction delivers strong structural performance while supporting higher payloads
Moisture, Ultraviolet (UV), Chemical, Corrosion & Rot Resistant	Withstands harsh environments and extends the lifespan of the structure
Tough & Impact-Resistant	Durable facesheets can provide long service life even in high traffic or demanding applications
Strong Adhesive Bonding	Surfaces are designed for reliable bonding to a variety of finishes and attachments
Large Format Panels	Provide improved aesthetics, seamless surfaces, and fewer joints compared to traditional assemblies

TYPICAL PROPERTIES – THERMOPLASTIC PANELS

DESCRIPTION	TEST METHOD	PROPERTIES		UNIT	HAMMERHEAD PANEL			HAMMERHEAD FR PANEL
Physical Properties		Core Density		[kg/m^3]	80	100	130	100
				[lb/ft^3]	5	6.2	8.1	6.2
		Panel Thickness		[in]	1	1	1	1
		Areal Weight		[lb/sqft]	1.05	1.15	1.30	1.55
		Typical Thickness	[AVG]	[in]	1.02	1.02	1.02	1.05
			[Tolerance]	[in]	+/- 0.02	+/- 0.02	+/- 0.02	+/- 0.02
4-Point Flexure[1]	ASTM D7249	0° Modulus	[AVG]	[ksi]	330	340	360	320
		90° Modulus	[AVG]		330	340	360	300
		0° Flexural Rigidity (EI/in)	[AVG]	[in*lb^2/in]	29,000	30,000	31,000	29,000
		90° Flexural Rigidity (EI/in)	[AVG]	[in*lb^2/in]	29,000	30,000	31,000	29,000
Compression[2]	ASTM C365	Modulus	[AVG]	[psi]	8,200	11,800	14,300	10,500
		Yield (20% mod drop)	[AVG]	[psi]	180	240	330	260
Thermal Conductivity	ASTM C518	R-Value	[AVG]	[/in]	4.5	4.2	3.8	3.8

[1] Flexural rigidity values vary based on panel size and raw material orientation.
[2] Compression test completed with 3" Disc Test.
Results above are typical values.

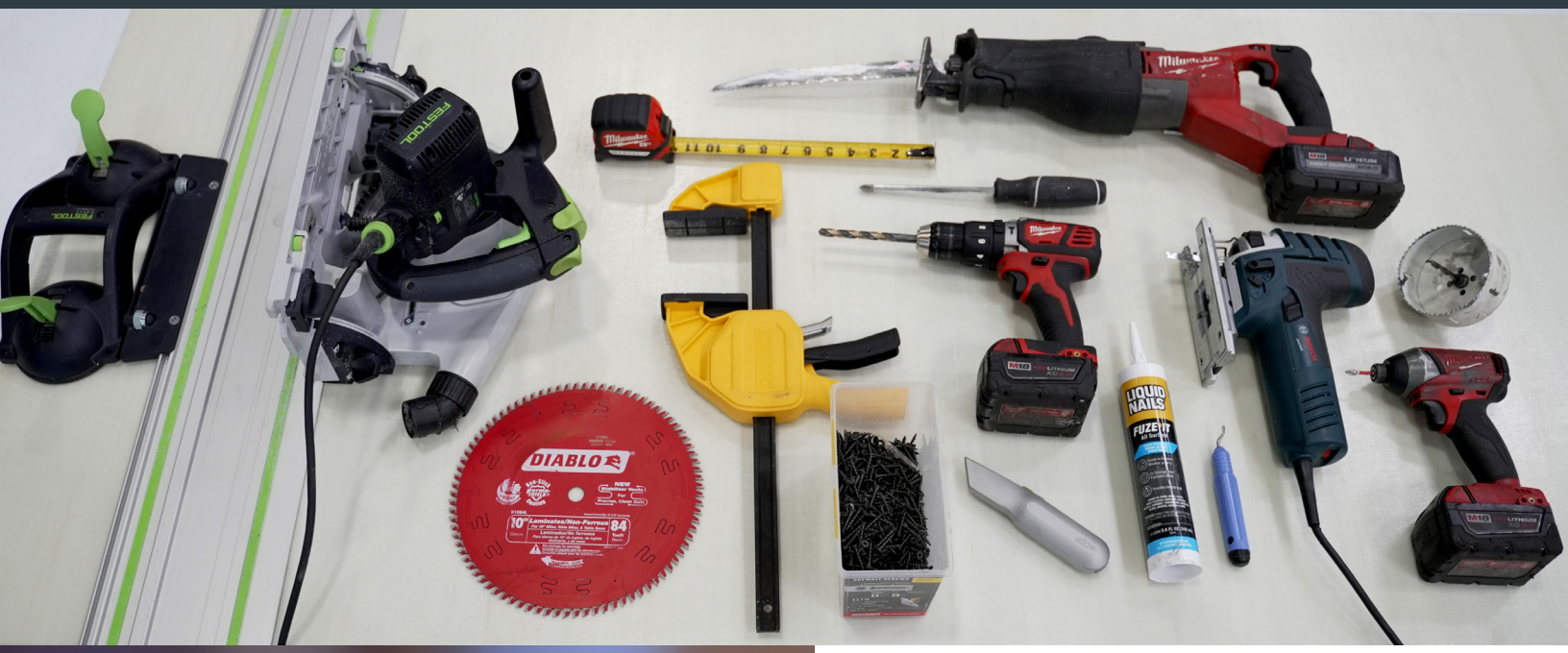
FASTENER RETENTION

GRK Fasteners™ and E-Z Ancor® are trademarks of Illinois Tool Works Inc.

PROPERTIES	UNIT	HAMMERHEAD PANEL			HAMMERHEAD FR PANEL
Core Density	kg/m^3	80	100	130	100
Panel Thickness	Inches	1	1	1	1
#6 Drywall	Partial Pull-Out	110	130	140	120
	Through Pull-Out	210	240	250	230
#8 Drywall	Partial Pull-Out	150	160	190	170
	Through Pull-Out	270	280	290	310
#12 Self-Tapping	Partial Pull-Out	100	130	140	130
	Through Pull-Out	210	220	260	230
E-Z Ancor® Drywall & Stud #25316	Partial Pull-Out	320	330	340	310
5/16" GRK Fasteners™	Partial Pull-Out	180	190	200	190
	Through Pull-Out	340	360	400	350

*Tested according to ASTM D1037 Fastner Retention standards.

INSTALLATION INSTRUCTIONS



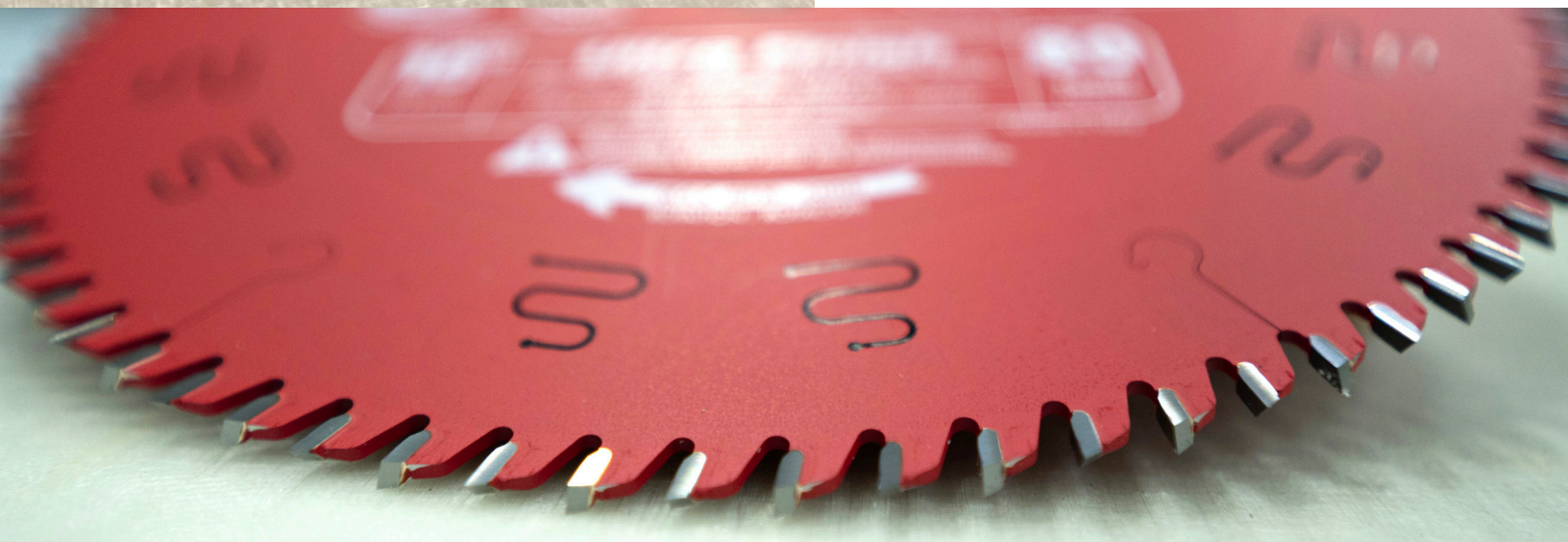
CUTTING & DRILLING

RECOMMENDED BLADE

Industrial fine cut-off saw blade, 10" x 80–94 teeth 38° alternate top bevel (ATB) grind with 5/8" bore, polytetrafluoroethylene (PTFE) coating, such as DIABLO® 10" x 80-teeth ultra finish saw blade for wood item# D1080X

RECOMMENDED ROUTER BITS

Solid carbide single flute bit of O flute geometry, various diameters

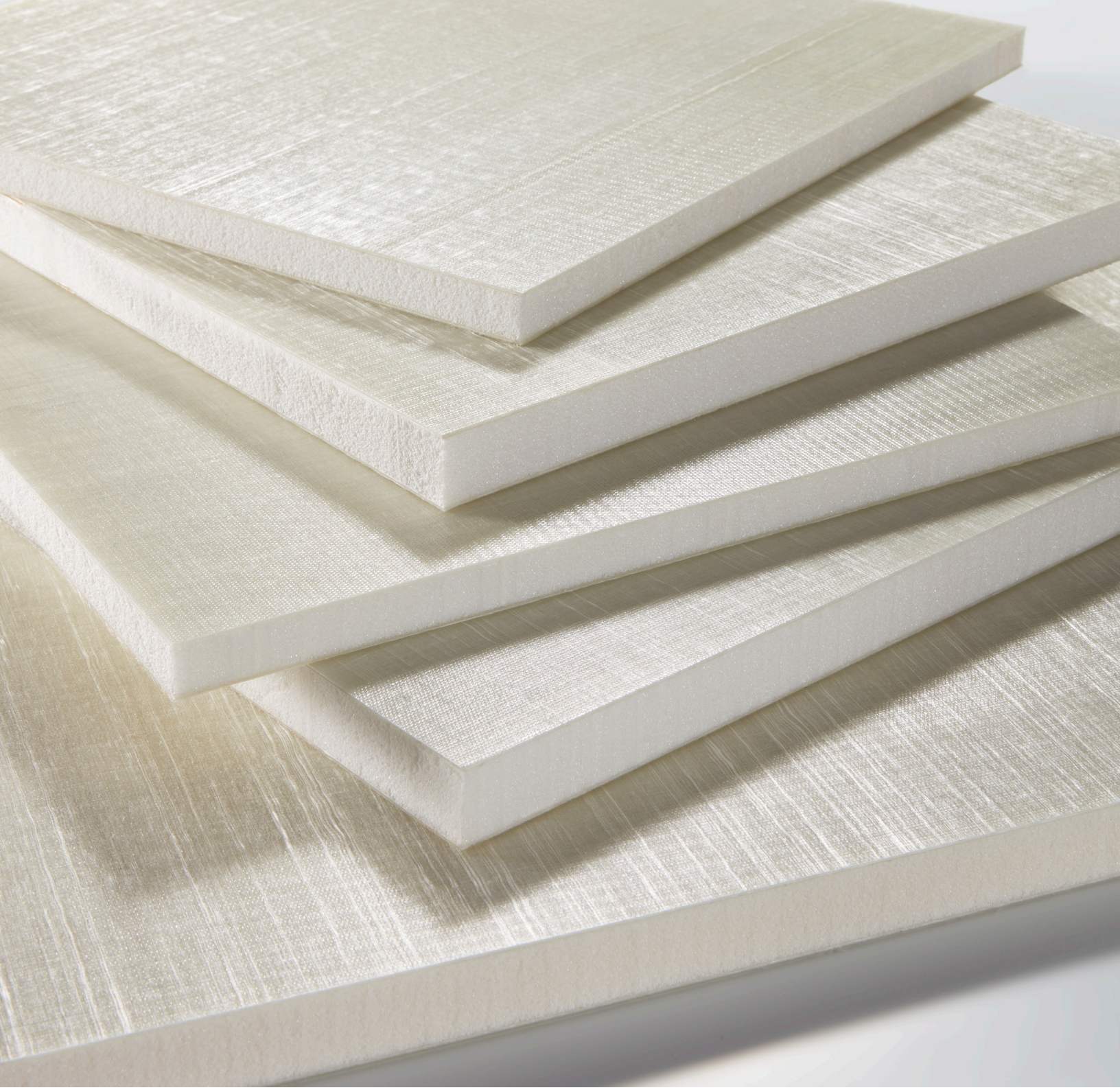


PANEL SHAPING

Hammerhead panels are manufactured using thermoplastic materials, which allows them to be post-processed to create continuous bends, contours, and formed shapes. For guidance on the most effective methods to utilize these capabilities, please contact Avient.

FINISHES

Hammerhead panels support a wide range of surface finishes including primer, paint, and various paint-ready films and coatings. This allows broad flexibility for both aesthetic customization and added protection. Avient can also supply panels with raw film finishes that match many different colored films and vinyl options such as wallpapers and flooring. These finishes can be applied directly during the manufacturing process.



To learn more about Hammerhead Panels, call+1.844.4AVIENT or visit us at avient.com/hammerhead-fr.

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